Title (en)

HYDROGENATED LIQUID FUEL PRODUCTION AND HYPERBARIC FUEL INDUCTION SYSTEM FOR GASOLINE AND DIESEL INTERNAL COMBUSTION ENGINES

Title (de)

HERSTELLUNG VON HYDRIERTEM FLÜSSIGBRENNSTOFF UND HYPERBARISCHES KRAFTSTOFFANSAUGSYSTEM FÜR BENZIN- UND DIESELVERBRENNUNGSMOTOREN

Title (fr)

PRODUCTION DE CARBURANT LIQUIDE HYDROGÉNÉ ET SYSTÈME D'INDUCTION DE CARBURANT HYPERBARE POUR MOTEURS À COMBUSTION INTERNE À ESSENCE ET DIESEL

Publication

EP 3464866 A1 20190410 (EN)

Application

EP 17803625 A 20170525

Priority

- US 201662341228 P 20160525
- US 2017034560 W 20170525

Abstract (en)

[origin: WO2017205681A1] A hyperbaric fuel system (10a, 10b) produces hydrogenated liquid fuel (30) for combustion reactions of compression or spark ignition engines and improves fossil fuel efficiency without requiring major changes to existing fuel systems. The hydrogenated liquid fuel (30) decreases the NOx, CO and unburned hydrocarbon particulate matter, and reduces the consumption of liquid fuel (26). The systems produces hydrogen gas (18) and dissolves the hydrogen gas (18) in the liquid fuel (26) using several chambers, including a hyperbaric mixing chamber (58), between the liquid fuel supply and a fuel pump (28) supplying the hydrogenated liquid fuel (30) to fuel injectors (40). Unused hydrogen gas (18) and hydrogenated liquid fuel (30) is recirculated to minimize loss of efficiency. The system preferably includes a water reservoir and electrolysis device to generate the hydrogen gas.

IPC 8 full level

F02M 25/10 (2006.01); **F02M 25/12** (2006.01)

CPC (source: EP RU US)

F02D 19/0673 (2013.01 - EP RU); **F02M 25/10** (2013.01 - EP RU US); **F02M 25/12** (2013.01 - EP RU US); **F02M 37/0052** (2013.01 - EP RU); **F02M 37/0064** (2013.01 - EP RU US); **F02M 37/0082** (2013.01 - EP RU); **F02M 37/14** (2013.01 - EP RU); **F02M 37/18** (2013.01 - EP RU); F02D 19/0644 (2013.01 - EP); F02D 19/0663 (2013.01 - EP); F02D 19/081 (2013.01 - EP); Y02T 10/12 (2013.01 - EP US); Y02T 10/30 (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2017205681 A1 20171130; BR 112018074166 A2 20200121; BR 112018074166 B1 20230502; CA 3025509 A1 20171130; CA 3025509 C 20220322; CN 109312693 A 20190205; EP 3464866 A1 20190410; EP 3464866 A4 20191218; EP 3464866 B1 20210929; JP 2019521284 A 20190725; JP 6986069 B2 20211222; MX 2018014326 A 20190923; RU 2018141167 A 20200625; RU 2018141167 A3 20200812; RU 2734625 C2 20201021; US 10527013 B2 20200107; US 2019085802 A1 20190321

DOCDB simple family (application)

US 2017034560 W 20170525; BR 112018074166 A 20170525; CA 3025509 A 20170525; CN 201780032584 A 20170525; EP 17803625 A 20170525; JP 2019514191 A 20170525; MX 2018014326 A 20170525; RU 2018141167 A 20170525; US 201716069705 A 20170525